



# RB45

## MIGHTIBRUTE MAGNETIC DRILL PRESS



### SAFETY / USAGE GUIDELINES



### PARTS & SCHEMATICS





### IMPORTANT

Please read these operating and safety instructions carefully and completely. For your own safety, before using this equipment check that the voltage is correct and that all handles and parts are firmly secured. If you are uncertain about any aspect of using this equipment, contact your distributor.

### PLEASE KEEP THESE INSTRUCTIONS

**Weight** 44LB

**Magnetic Strength** 3300LB

**Motor** Eisenstock 1200W

**Motor Speed RPM** 250/450

**Cutter Capacity** 2"

**Drill Capacity** 1"

**Depth of Cut** 6"

**Height** 18-7/8"

**Depth** 11"

**Width** 4-1/2"

#### INCLUDED WITH EVERY RB45

Carrying case, safety strap, RB433 #2MT arbor, operating handles, cutting fluid, safety guard, drift key and hex keys.

**Ear and eye protection MUST be worn during operation of this equipment. Do NOT touch the cutter while it is in motion. Always follow the Personal Protection Equipment (PPE) recommendations while operating this tool.**

This machine is designed specifically for drilling holes in steel using annular cutters or with twist drills when using the optional drill chuck. We recommend Champion® Rotobrute™ annular cutters. Please consult your Champion authorized distributor for a complete range of sizes.

**DO NOT modify and / or use your Rotobrute™ Magnetic Drill Press for any application other than, for which it is intended.**

#### SAFETY

**Be sure to read and follow these important safety instructions:**

When using your RB45 MightiBrute, be sure to follow these important safety precautions:

1. Before operating the machine, check supply voltage and general conditions, i.e. cable/cord damage. A machine with damaged cable must be returned or repaired prior to use.
2. Always use the safety strap in all drilling applications.
4. Since cutting tools can shatter, eye and head protection should be worn at all times.
5. After use, clean machine and cutters and keep in the case provided.
6. Store when not in use in a dry environment.
7. Always provide a method of catching slug, where the ejected slug may cause injury (slug ejects at end of cut).
8. Should the cutter jam in the work-piece, stop the machine immediately. Isolate the machine at the main supply. Loosen the cutter by rotating the arbor. Do not attempt to free cutter by starting and stopping the motor.
9. Always use the safety guard provided.

#### Electrical Safety

Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way.

Do not use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. If the tools should electrically malfunction or breakdown, grounding provides a low resistance path to carry electricity away from the user. Never use the cord to carry the tools or pull the plug from an outlet. Replace damaged cords immediately.

When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W". These cords are rated for outdoor use and reduce the risk of electric shock. Minimum gauge external cord should be 12/3.

Use the RB-32 with 110 A/C voltage only. Not for use with generators, welders or any dc power source. Do not use on any surface where welding is taking place.

#### Personal Safety

Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.

Do not wear loose clothing or jewelry. Avoid accidental starting. Be sure switch is off before plugging in. Carrying tools with your finger on the switch or plugging in tools that have the switch on invites accidents.

Remove adjusting keys before turning the tool on.

Do not overreach. Keep proper footing and balance at all times.

Safety equipment (eye protection, dust mask, nonskid safety shoes, hard hat, hearing protection) should be used for appropriate conditions.

#### Tool Use and Care

Use clamps or other practical ways to secure and support the work-piece to a stable platform.

Do not force tool. Use the correct tool for the application.

Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.

Store idle tools out of reach of children and other untrained persons.

Maintain tools with care. Keep cutting tools sharp and clean.

Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using.

#### Service

Tool service must be performed only by qualified and authorized personnel, or warranty is voided.

When servicing a tool, use only original replacement parts. Use of unauthorized parts will void the warranty,

Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electric shock or injury.

#### Magnetic Drill Safety

The drill's magnetic adhesion depends on the thickness of the work-piece. 1/2" (13mm) is the minimum thickness for safe operation. Keep the magnet clean of metal chips and other dirt and debris. These will seriously reduce the magnetic adhesion. The drill must be operated on its own electrical outlet. Always use the supplied safety strap or chain. An electrical overload can result in loss of adhesion.

**CAUTION: The slug ejects at end of cut and is very hot.**

**WARNING:** Do not attempt to drill a work-piece, which is thicker than the maximum cutting depth of the cutter being used. **Never exceed 2" cutter diameter.**

#### Maintenance and Troubleshooting

Keep the drill press and the cord clean. In case of electrical or mechanical malfunction, immediately switch off the tool and disconnect the plug. Excessive sparking generally indicates the presence of dirt in the motor or worn out carbon brushes. Periodically check brushes for wear and replace when they reach 1/4" (6mm). Also check that the machine is well lubricated.

For all other service and maintenance, please contact a Champion® authorized service center.



### Operating Instructions

1. Place a pilot pin in the cutter at the shank end. Insert the cutter into the special arbor, aligning the flats to the set screws on the arbor. Secure the set screws to the cutter with the supplied hex wrench.
2. Position the machine on a clean, dry, ferrous surface at least 1/2" thick. Switch on the magnet.
3. Cutting fluid must be used at all times to enhance the quality of cut and prolong the cutting tool life. Cutting fluid is applied through small holes located at the top/shank end of the arbor and feeds via gravity.
4. Switch on the drill. Always proceed with caution at the start of drilling operations. When using RotoBrute annular cutters apply pressure gradually at first until a depth of 1/8" is reached. Normal cutting pressure can then be applied.
5. On completion of cut, withdraw the cutter from hole, switch off the drill, then the magnet. Ensure the magnet base is clear of chips. Locate the next hole using the above procedures.

### Adjusting Dovetail Slides

Slowly adjust the hex screws while moving the handle up and down. Adjust so there is no free play or no binding anywhere through its range of travel. Periodically check, lubricate, and adjust as necessary.

### Repositioning of Handles

1. Elevate the slide upward to its full extent.
2. Remove the pinion cap screw and pinion cap from the shaft end (opposite side to handles).
3. Slide the pinion with the handles on outward, approximately 1/3rd distance.
4. Disengage the rack by means of raising the slide up by another 3/4".
5. Remove pinion, reposition through opposite side of body casting and reverse procedure as above.

### Assembly of Traverse Handles

1. To assemble traverse handle, place each of the three (3) handles into the threaded holes on the pinion rack, turning clockwise to tighten.
2. To remove handles, turn counter-clockwise.

### Assembly of Arbor for use with Annular Cutters

1. Machine spindle must be clean and free of debris.
2. Push the arbor firmly up into the internal spindle to lock into place.
3. To remove cutter arbor, insert drift key through keyhole located on side of motor until arbor ejects.
4. To prepare for cutters, loosen set screws with hex keys (provided). INSERT PILOT INTO CUTTER HOLE AT SHANK END. Place shank of cutter into bottom of arbor. Align flats on shank with set screws and tighten until cutter locks into place.
5. To remove cutter, loosen set screws and pull.

### Assembly of Drill Chuck for use with Straight Shank Tools

Drill chuck is optional: RB4512 (1/2" capacity)

1. Place the drill chuck into the internal spindle, give a firm push to be sure it locks into place.
2. To remove, push drift key through drift keyhole located on side of motor until drill chuck ejects.
3. To prepare drill chuck for drills, place chuck key into chuck key hole and turn counter clockwise. Place drill bit into drill chuck and turn chuck key clockwise until drill bit locks into place.
4. To remove drill bit, turn chuck key counter clockwise.

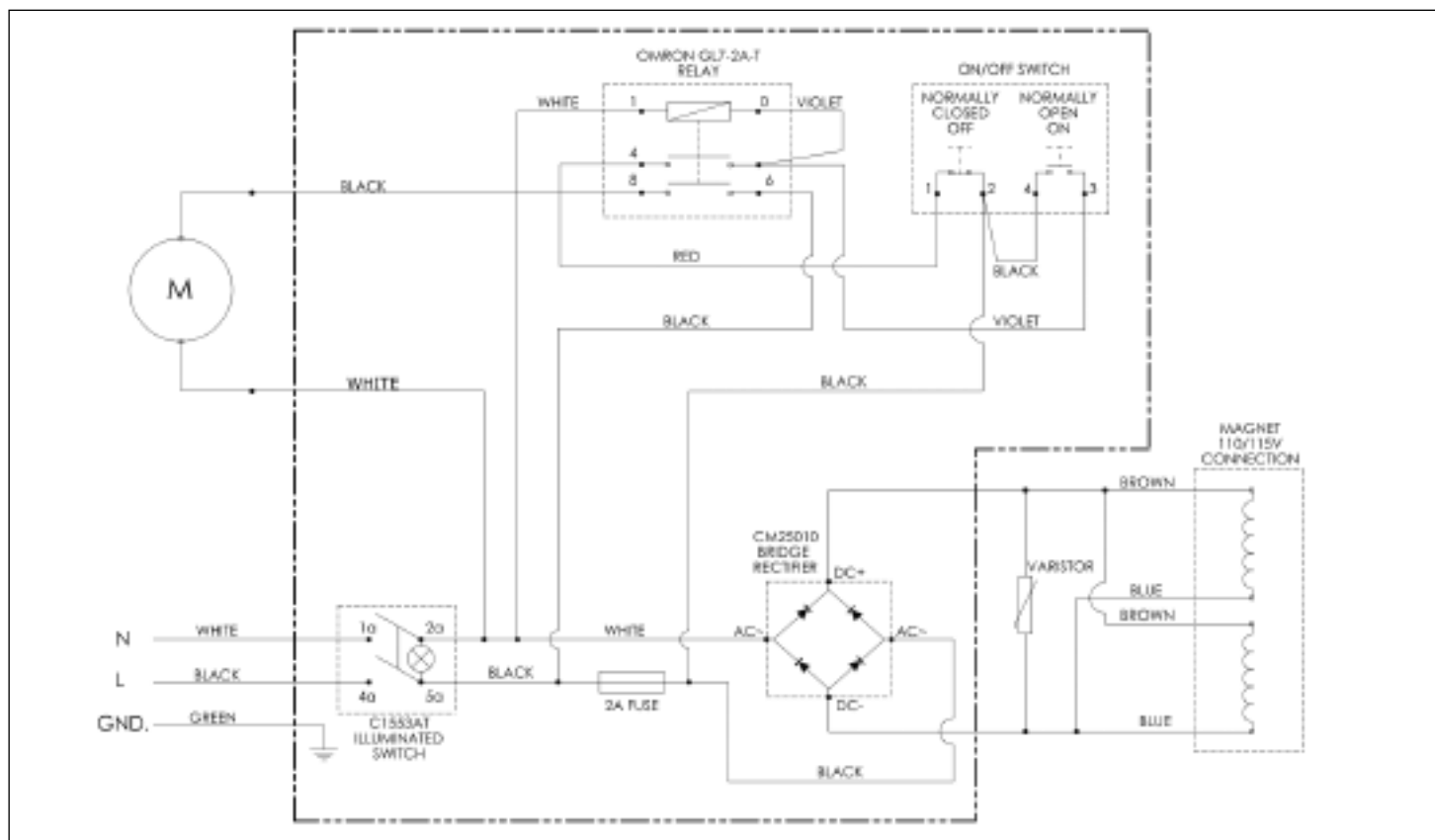
### To use Taper Shank Drills and Reamers

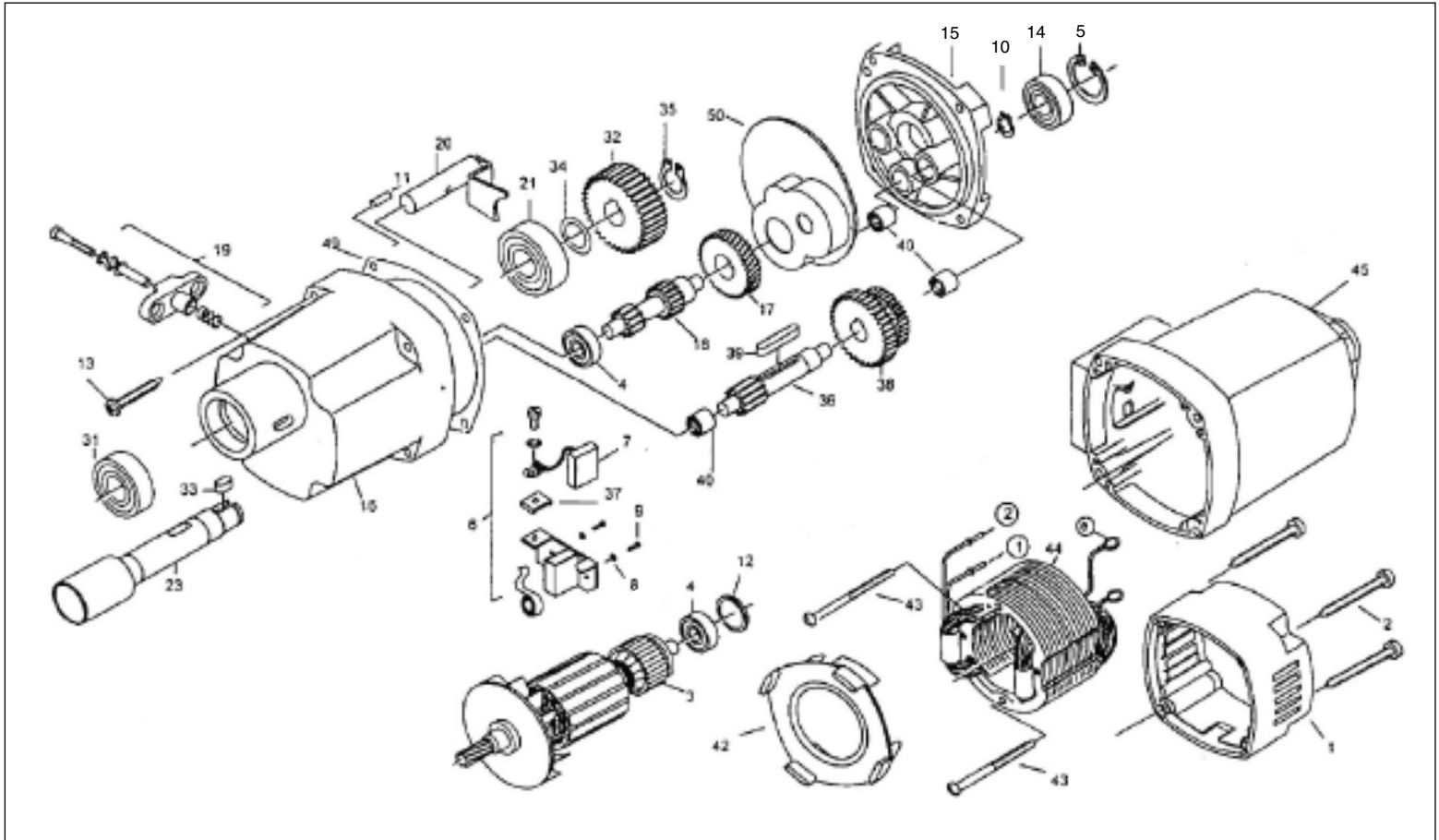
1. Insert taper shank drill or reamer into internal #2MT spindle.
2. Make sure the tang on the taper shank drill or reamer is aligned correctly and locked into place.
3. To remove, insert drift key into slot located on side of motor and push through until drill or reamer is ejected.
4. If drill or reamer is not seated correctly, the tang will break off and may cause damage to internal spindle.

### Assembly of Safety Guard

- Loosen screw from underneath the arbor support (front/center). Align the bracket slot with the screw, and tighten screw until safety guard locks into place.
- To remove safety guard, loosen screw and remove safety guard.

## RB45 ELECTRICAL DIAGRAM



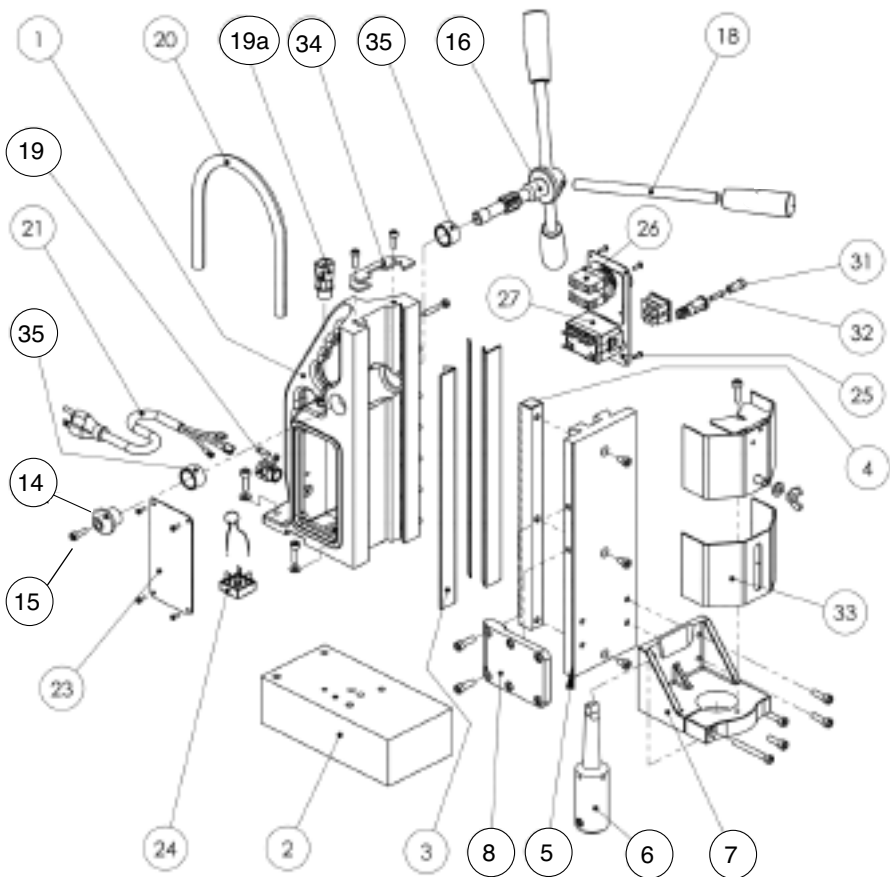
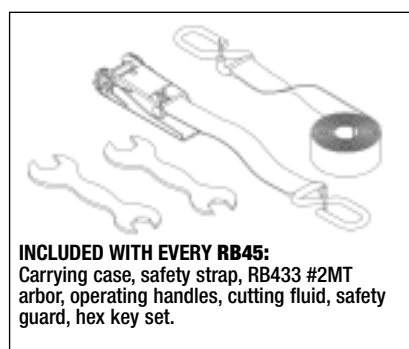
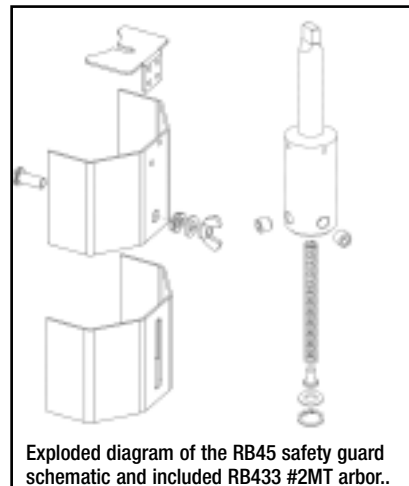


**No. List/Size Description (Qty per Machine)**

1	RB45-A240	Cap (1)
2	RB45-1267	Self Tapping Screw (4)
3	RB45-A100	110 Volt Armature (1)
4	RB45-0011	Grooved Ball Bearing (1)
5	RB45-1333	Safety Ring 28/1,2 DIN 472 (1)
6	RB45-1196	Brush Holder Complete (1)
7	RB45-0013	Carbon Brush (2)
8	RB45-1385	Spring Washers (2)
9	RB45-1180	Screws ZM4X12 DIN7500-C (2)
10	RB45-1320	Safety Ring (1)
11	RB45-0582	Notched Ring (1)
12	RB45-0036	O-Ring (1)
13	RB45-1284	Self Tapping Screw (4)
14	RB45-0031	Grooved Ball Bearing (1)
15	RB45-A810	End Shield of Gearing (1)
16	RB45-3400	Gearbox Housing (1)
17	RB45-A470	Intermediate Wheel (1)
18	RB45-3500	Shaft with 2 Pinions (1)
19	RB45-0545	Gearbox Switch Complete (1)
20	RB45-3520	Coupling Bolt Complete (1)

**No. List/Size Description (Qty per Machine)**

21	RB45-0130	Grooved Ball Bearing (1)
23	RB45-3420	Drill Spindle (1)
31	RB45-0152	Grooved Ball Bearing (1)
32	RB45-3430	Spindle Wheel (1)
33	RB45-0601	Fitting Spring (1)
34	RB45-0504	Fitting Washer (1)
35	RB45-1322	Safety Ring (1)
36	RB45-3460	Shaft for Cluster Gears (1)
37	RB45-0210	Contact Washer (1)
38	RB45-3440	Cluster Gears (1)
39	RB45-0602	Fitting Spring (1)
40	RB45-0110	Needle Sleeve (1)
42	RB45-A140	Air Guiding Ring (1)
43	RB45-1266	Self Tapping Screws (2)
44	RB45-A150	110V Stator Complete (1)
45	RB45-A200	Motor Housing (1)
46	RB45-0010	Anti Parasit Condenser (not shown)
	RB45-CASE-MT	Empty Plastic Carrying Case
	RB4512	#2MT w/mounted 1/2 Chuck (not included - optional)

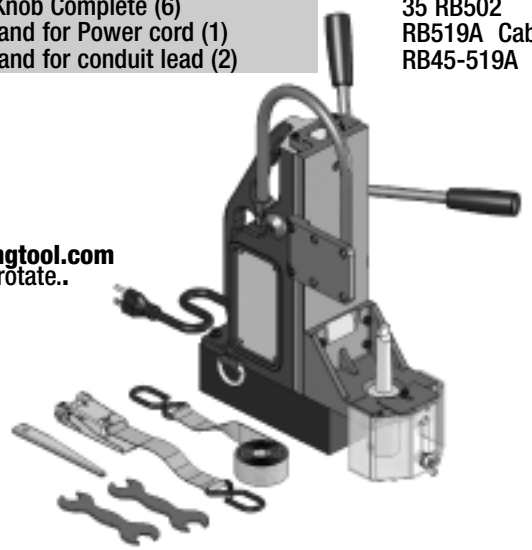


No.	List/Size Description (Qty per Machine)
1	RB45-187 Main Body Casting (1)
2	RB702 Electromagnetic Base (1)
3	RB45-1103 Brass Guide Seal (2)
4	RB625 Machine Rack (1)
5	RB45-1104 Dovetail Slide (1)
6	RB433 MT2 Arbor Complete (1)
7	RB45-Y185 Lower Support Casting (1)
8	RB45-Y186 Side Fixing Casting (1)
13	RB45-204 Set Screw M 10 x 10 (2) (not pictured)
14	RB45-524 Pinion End Cap (1)
15	RB221 Cap Head Screw for Pinion M5 x 15
16	RB710 Pinion Shaft (1)
18	RB718 Handle/Knob Complete (6)
19	RB519 Cable Gland for Power cord (1)
19A	RB45-519A Cable Gland for conduit lead (2)

No.	List/Size Description (Qty per Machine)
20	RB45-Y188 Conduit Lead (1)
21	RB503 Main Cable 110V (1)
23	RB45-X316 Side Panel (1)
24	RB515 Rectifier Unit (1)
25	RB45-1102 Switch Panel (1)
26	RB509 Stop/Start Switch (1)
27	RB513 Power Relay 110V (1)
30	RB505 Mag Switch 110V (1)
31	RB511 Fuse Holder (1)
32	RB512 2A Fuse (1)
33	RB611 Safety Guard (1)
34	RB612 Retaining Bracket (1)
35	RB502 Pinion Bushings (2)
RB519A	Cable Gland Metal for Power cord (1)
RB45-519A	Cable Gland for conduit lead (2)

# RB45

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# PORTABLE METAL DRILLING SYSTEMS

## MAGNETIC DRILL PRESS RANGE



**RB32 MINIBRUTE**



**RB45 MIGHTIBRUTE**



**RB65 MEGABRUTE**



**AC35**

## ANNULAR CUTTER RANGES

### CT SERIES

CARBIDE TIPPED ANNULAR CUTTERS

**CT150 / CT200 / CT300 / CT400**

#### CT150

1-3/8"  
Depth of cut

#### CT200

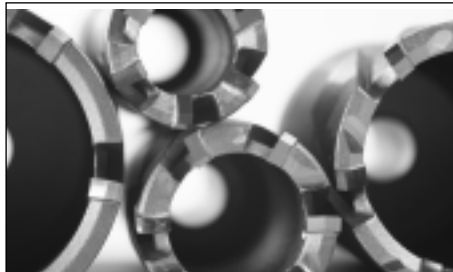
2" Depth of cut

#### CT300

3" Depth of cut

#### CT400

4" Depth of cut



### XL SERIES

HIGH SPEED ANNULAR CUTTERS

**XL / XLT / XLSTK**

#### XL

HS ANNULAR CUTTER  
XL100/XL200/XL300  
1" / 2" / 3"  
Depth of cut



#### XLT

HS TITANIUM COATED  
XL100T / XL200T  
1" / 2" Depth of cut



#### XLSTK

COBALT STACK CUT  
XL200STK  
2" Depth of cut



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